



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D6102-013
Job Sheet 184917



Part No: D6102-013

Job Qty: 70 ea

Part Name: Saddle Billet



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/18/18

Job Tracking No:

Due Date: 11/9/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV D

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	70 pcs		11/9/18	0.00	0.00	Purchasing		M 18/11/07
110	Packaging	70 pcs		11/9/18	0.00	0.00	Packaging2		M 18/11/07
120	QC	70 pcs		11/9/18	0.00	0.00	QC6		M 18/11/07
130	Packaging	70 pcs		11/9/18	0.00	0.00	Packaging3-2		M 18-11-14
140	QC21-SA	70 Ea		11/9/18	0.00	0.00	QC21		DAS NOV 15 2018

Part Op 100 - Issue P/O: 41376 b) 7.000" x 6.500" x 2.000" thick
Descriptions: 110 - Ensure material certification is attached
120 - Check certification to Dwg D6102 for compliance
130 - LOCATION: MAT046

21
9-89

OCT 18 2018

DAS
13
9-89

X70

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6102-013P	6061-T6 7.0X6.5X2.0	70 pcs (1 ea)	100-Purchasing	5125524

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6102-013P	70	0	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

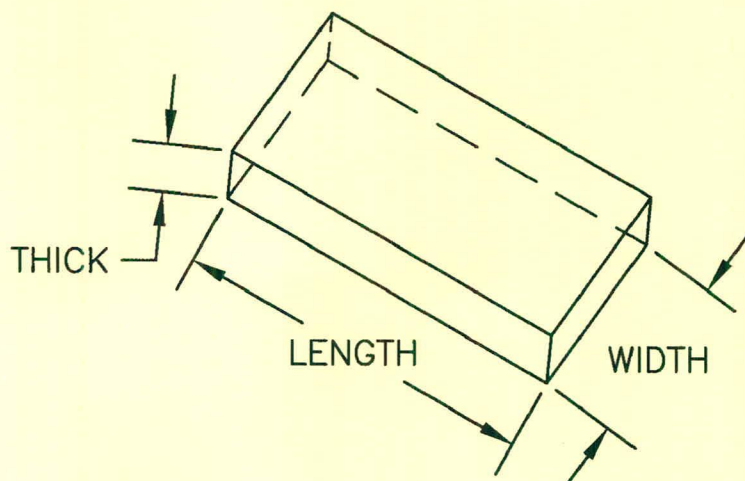
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

DART

DESIGN #	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D6102	Rev. D SHEET 1 OF 1
DATE 06.06.30		TITLE SADDLE BILLET, 6061	SCALE NTS
A	01.03.30	NEW ISSUE	
B	03.10.20	ADD D6102-005/-007/-009	
C	04.08.25	ADD D6102-010/-011	
D	06.06.30	ADD D6102-013	

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 184917 M05
18-10-18

RELEASED

06.08.15 #

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6102-001	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.880	6.250	2.000	Along 7.880 Length
D6102-003	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.000	6.250	2.000	Along 6.000 Length
D6102-005	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	47.85	15.250	1.000	Along 47.85 Length
D6102-007	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.500	7.000	2.500	Along 7.500 Length
D6102-009	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	11.000	6.000	5.000	Along 11.000 Length
D6102-010	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.950	8.250	2.500	Along 7.950 Length
D6102-011	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	8.250	2.500	Along 6.500 Length
D6102-013	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	7.000	2.000	Along 6.500 Length

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E-MAILED
OCT 19 2018

Via:	Ground
Pymt Terms:	Net 30
Freight Terms:	
Special Comments:	

http://www.planning.com/501704-0244-4740-b6fd-804424e942d4/Planning_Central/Report_Viewer_2.asp?unit/0/1E/0/2EDurchasing0/2ED0 Print



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
PO041376

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

A handwritten signature in black ink, appearing to be "CL" followed by a stylized flourish or signature.

Plex 10/18/18 11:03 AM dart.lavoie.chantal



A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3739289

Ship From: A. M. CASTLE & CO. 1625 TILLIE LEWIS DRIVE STOCKTON, CA 95206 USA		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 26-OCT-18	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier YRC		BOL No 3739289-2	

Shipment Details	Final Destination Branch - STO
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Order No	Line No	Item No	Description				
5293592	1	30509.MO	2.0000.PL.6061.T651.ALUMINUM.60.5000.144.5000 CUT RECTANGLE TO 7 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.5")) X 6.5 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.5")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS 4027				
Purchase Order No		Part Number	Ordered Qty		Invoice Qty		
41376		YOUR ITEM NUMBER: D6102-013	70.00 PCS		70.00 PCS		
Details		ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
122312268	KAISER ALUMINUM			70			639.2411

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description.

Date Printed: 26 OCT 2018 04:31:30 PM



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

Name:



SHIP TO: A M CASTLE & CO 1625 TILLIE LEWIS DRIVE STOCKTON, CA 95206
SOLD TO: AM CASTLE & CO- SOLD TO 1420 KENSINGTON RD SUITE 220 OAK BROOK, IL 60523

**KAISER
ALUMINUM**

Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number

4524241

CUSTOMER PO NUMBER: 467813-2	WORK PACKAGE:	CUSTOMER PART NUMBER: 30509	SHIP RUN/LOAD: 104366/12	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1261496-2	SHIP DATE: 19-AUG-2018	ALLOY: 6061	CLAD: BARE	TEMPER: T651
PRODUCT DESCRIPTION: KaiserSelect Precision Plate	WEIGHT SHIPPED: 7252 LB	QUANTITY: 4 PCS EST.	TRUCK B/L #: 2075551	GAUGE: 2.0000 IN (50.8000 MM)
DIAMETER/WIDTH: 60.500 IN (1536.7 MM)	LENGTH: 144.500 IN (3670.3 MM)			

MHU 2256479: LOT 282998B4: 2 pieces;

MHU 2256482: LOT 282998B4: 2 pieces;

Certified Specifications

AMS 4027/RevN
EN 10204-3.1/Rev2004

ASME SB 209/Rev2010

ASTM B 209/Rev14

Test Code: 1511

Lot: 282998B4 Cast 446

Drop 23

Test Results

Ingot 2

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 5 (Min:Max)	48.7 : 49.0 (336 : 338)	43.7 : 44.3 (301 : 305)	13.4 : 14.5

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.70	0.5	0.27	0.11	1.0	0.20	0.12	0.02	0.01	0.00	TOT 0.02

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
6061												
MIN(wt%)	0.40	0.0	0.15	0.00	0.8	0.04	0.00	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS

AMC A96061-161 R 3



Trentwood Works
PO Box 15108, Spokane Valley WA 99215-5108
15000 E Euclid, Spokane Valley WA 99216
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4524241

TEST NOTES

6061 sheet or plate certified to AMS 4025, AMS 4026, or AMS
4027 also meets applicable requirements of AMS-QQ-A-250/11
Rev.A.

CASTLE METALS STO

HEAT NUMBER 282998B4
MECHANICAL ID _____
ITEM CODE 30509
LOT NUMBER 467813-2
PURCHASE ORDER 467813-2
SUPPLIER Kaiser
SPECIFICATION/LCS _____
COMMENT _____
APPROVED/DATE 8-22-0

CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- * has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
- * All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
- * was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
- * has been thermally processed in compliance with AMS 2772, where applicable.
- * is mercury free, within the limits of detection of ASTM E1215 (< 1ppm).
- * is in compliance with RoHS 2, European Union Directive 2011/65/EU.
- * is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
- * is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
- * is free of weld repair.
- * meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Michael Peske, PT Lab Process Engineer

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D6102-013
 DATE: 18/11/07

PO / BATCH NO.: P0041376/5125528

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 70
 QUANTITY INSPECTED: 70
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.00"
 THICKNESS RECEIVED: 2.00"
 SHEET SIZE ORDERED: -
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	AMS-QQ-A-250/11
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	H7.28299884
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/11/07</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

